1970 National Environmental Policy Act (NEPA) enacted establishing basic national charter for protection of the environment responsibilities for environmental issues relating to air, water, pesticides, radiation and solid waste ... Clean Air Act originally

CLEAN AIR

Some elements in the air have very detrimental impacts on human health and the environment. These elements are commonly referred to as "pollutants." Most of Region 7 has had relatively good quality air for as long as our monitors have been recording air quality data.

Air Pollutants

EPA has established health-based air quality standards for six criteria air pollutants. These pollutants are: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and particulate matter (PM). The Clean Air Act requires each state to develop air quality plans, or State Implementation Plans (SIPs), which outline how the standards for these pollutants will be met.

Control of emissions in Iowa, Kansas, Missouri and Nebraska has resulted in marked improvements in air quality. Based on monitoring data from 1988 to 1997, the average pollutant concentrations for each of the six criteria pollutants have been reduced in Region 7. Even with these improvements, our most populated cities frequently exceed air quality standards. For example, St. Louis, Missouri (the largest metropolitan area in Region 7) continues to employ significant pollutant reduction measures to meet the ozone standard.

A more important measure of air quality is the number of people exposed to unsafe levels of air pollutants. In 1990, approximately 3.2 million residents of Region 7 lived in areas that routinely exceeded one or more of the air standards. In 1999, the total number of people living in areas exceeding the air standards dropped to 1.9 million. This represents a 41 percent reduction in the number of people exposed to unhealthful concentrations of pollutants in less than a decade. Despite this success, 15 percent of Region 7's population still live in areas with unhealthy air. We continue to work hard to improve air quality for this segment of the population.

Ozone Consortium

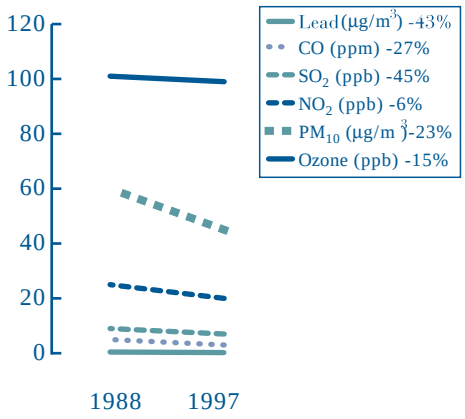
Region 7's Ozone Consortium was formed in partnership with many planning agencies in recognition that high ozone concentrations pose serious health threats and that violations of the ozone standard carry with them some of the most difficult requirements of the Clean Air Act. Six cities (Springfield, Missouri; Wichita, Kansas; Davenport, Cedar Rapids, and Des Moines, Iowa; and Omaha, Nebraska), all four state environmental agencies, numerous planning officials and elected officials now participate in this consortium.

Revised Standards

In 1997, EPA adopted revised health-based standards for particulate matter and ozone. Studies found that the smallest particles (2.5 microns) can cause the greatest damage to human lungs. To give some perspective, the average human hair is 28

... Estimated 20 million people participate in first Earth Day event ... EPA is created and is initially tasked with primary enacted in 1955 is amended to establish first comprehensive national program including uniform national air quality standards

Criteria Air Pollutant Trends



times larger (in diameter) than the largest of these particles. Ozone studies found that the current standard did not adequately protect health.

Continuing air quality evaluations reveal that ozone concentrations in St. Louis and Kansas City areas are exceeding or are very close to exceeding the new ozone standard. At least six other cities in Region 7 have air quality which threatens to exceed the new ozone standard.

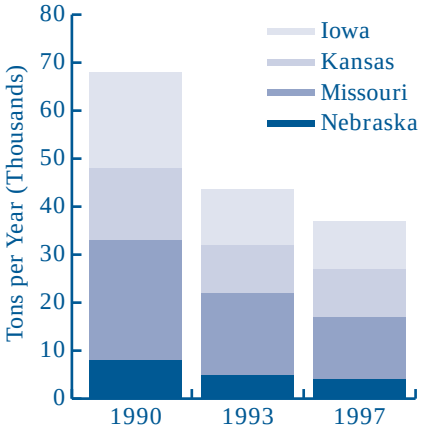
Air Toxics

Exposure to other airborne toxic compounds such as benzene, formaldehyde and mercury are also potential threats to human health and the environment. EPA has recently begun to focus attention on nearly 200 air toxic substances.

Region 7 maintains two independent databases which document toxic emissions. The Toxics Release Inventory (TRI) is the oldest of the two databases. It contains information on toxic releases to air, water and land reported for major facilities. TRI data show that between 1993 and 1997, Region 7's toxic emissions were reduced by approximately 8 percent. The new National Toxic Inventory (NTI) database shows that as much as 70 percent of Region 7's toxic emissions are related to motor vehicles, small facilities, and commercial activities.

Region 7 is working with our states to establish monitoring networks in our most vulnerable areas to evaluate air toxic impacts to communities.

TRI Emission Trends



Enforcement – Not Just Fines

When settling federal enforcement cases, Region 7 focuses not only on correction of violations and remediation of environmental harm, but also on encouraging the violating parties to go beyond the minimum legal compliance requirements by developing supplementary environmental projects as part of the settlements. To take advantage of this program, a company implements a project that will reduce or eliminate the amount of pollutants released into the environment in exchange for a reduced penalty. Region 7 settlements which included these supplemental projects have reduced emissions by an estimated 107 million pounds of pollutants.

Charcoal Kiln Emissions Reduced Through Partnership

Residents of Missouri's scenic Ozarks had a serious air quality problem until the late 1990s due to the charcoal industry. Charcoal kilns operated without air emission controls, and emitted thousands of tons of particulates and toxic gases, including methanol and carbon monoxide. In 1997, Region 7 and the State of Missouri worked together to develop a solution to this problem and reduce emissions from these sources. Through a settlement agreement, the charcoal products industry agreed to reduce harmful emissions and restore healthful air quality to these Ozark residents.

1971 Region 7 office and laboratory established in Kansas City, MO ... Cheyenne Bottoms, KS, designated as a wetland of unknowingly sprayed on roads for dust control at Times Beach, MO ... Federal Insecticide, Fungicide, and Rodenticide Act

The charcoal industry is working with Region 7 to reduce emissions. The emissions strategy will result in a yearly reduction of air pollutants by 30 million tons.

Indoor Air Quality

EPA studies indicate that indoor air levels of many pollutants may be two to five times, and sometimes more than 100 times, higher than outdoor levels. These levels of indoor air pollutants are of concern, because it is estimated that most people spend as much as 90 percent of their time indoors.

Indoor air quality can be affected by a variety of factors including construction practices; improper storage or use of pesticides and cleaners; elevated moisture levels; and synthetic building materials and furnishings. These factors can lead to a buildup of pollutants such as radon gas; lead; tobacco smoke; carbon monoxide and other combustion pollutants; dust; volatile organic compounds; and pesticides and biological contaminants.

Region 7's program focuses on providing information and technical assistance on improving indoor air quality to the public as well as to other government entities and the private sector.

Radon

Radon is a naturally occurring radioactive gas and the second leading cause of lung cancer. Test devices are used to determine indoor radon gas levels and when they exceed EPA's action level of 4 picocuries per liter (pCi/L). Iowa has the largest number of homes in the nation with radon levels above the action level; Nebraska is third. Region 7's program focuses on providing outreach and technical assistance in evaluating radon levels and mitigating problems where needed.

Asbestos

Asbestos fibers can cause serious lung diseases. Children are particularly vulnerable to the effects of asbestos exposure. EPA's asbestos program centers on public and private schools. There has been an extensive effort to inform elementary and secondary school officials on how to reduce exposure. The law requires inspection of all schools and the development of management plans where asbestos-containing materials are found. These plans, updated regularly, require schools to take actions to reduce or eliminate asbestos exposure. Region 7 has inspected 47 percent of school districts for compliance with the Asbestos Hazard Emergency Response Act.

Radiation

The primary health effects of exposures to ionizing radiation are increases in the risk of cancer and genetic changes such as growth impairment and mental retardation. In order to prevent exposures and incidents resulting in exposure to humans, Region 7's efforts in this area have consisted of providing technical assistance as well as responding to radiation emergencies and participating in emergency preparedness activities.

international importance ... Lead-Based Paint Poisoning Prevention Act enacted ... 1972 Waste oil containing dioxin was (FIFRA) originally enacted in 1947 amended to strengthen pesticide registration ... EPA institutes ban on use of pesticide DDT...